controlling said equipment with said controller using said arm element location data.

10. The method according to claim **9** wherein said arm element location data is in absolute coordinates.

11. The method according to claim **9** wherein said arm element location data is in reference to said vehicle.

12. The method according to claim **1**, which includes the additional step of:

programming the controller with a macro to control the machine through multiple repetitive steps until a desired result is achieved.

13. A method for programming a macro to control a GNSS guidance and control system for earth-moving equipment including a vehicle movably mounting a ground-engaging tool at an articulated vehicle-tool connection, which method comprises the steps of:

assigning an activation method chosen from the group including: "auto-engage" criteria and operator command;

selecting a programming means chosen from the group including: manual entry and recording;

selecting a reference for the vehicles location chosen from the group including: geo-reference and machine reference; and

assigning a form of repetition chosen from the group including: repeat machine operation exactly and increment machine operation.

14. A method for operating a macro to control a GNSS guidance and control system for earth-moving equipment including a vehicle movably mounting a ground-engaging tool at an articulated vehicle-tool connection, which method comprises the steps of:

activating the macro;

programming a task; and

performing the task.

15. The method according to claim **14**, which includes the additional step:

incrementing the task until the task is complete.

16. The method according to claim **14**, which includes the additional step of:

performing the task continuously until there is an operator interrupt.

17. The method according to claim **14**, which includes the additional steps of:

altering the machine movement during a portion of the macro ("delta control"); and

releasing manual control of the operation for continuation with the original macro control.

18. The method according to claim **17** wherein said "delta control" is a one-time, individual occurrence.

19. The method according to claim **17** wherein said "delta control" is recorded by the controller for repetition.

20. A GNSS guidance and control system for earth-moving equipment including a vehicle movably mounting a ground-engaging tool at an articulated vehicle-tool connection, which system comprises:

GNSS antennas mounted on said vehicle;

a GNSS receiver connected to said antennas;

a guidance CPU connected to said receiver;

a storage device within said CPU; and

a graphical user interface (GUI) located within said vehicle and connected to said CPU.

21. The GNSS guidance and control system of claim **20**, which includes:

a differential global navigation satellite system (DGNSS) correction receiver connected to said guidance CPU and adapted for receiving correction signals from a reference station or network in a real-time kinematic (RTK) position-determining mode.

22. The GNSS guidance and control system of claim **20**, wherein:

said CPU is capable of calculating positional data received by the receiver.

23. The GNSS guidance and control system of claim **20**, wherein:

said vehicle includes an implement arm with multiple elements;

each element of said implement arm includes a sensor for determining the angle of the element in relation to the previous element; and

said implement arm includes a GNSS antenna adapted for providing GNSS-based locational data to said CPU.

24. The GNSS guidance and control system of claim **20**, wherein:

said vehicle is controlled by a programmable macro.

25. The GNSS guidance and control system of claim **20**, wherein:

said macro operates for a finite time until a desired task is complete.

26. The GNSS guidance and control system of claim **20**, wherein:

said macro operates continuously until there is an operator interrupt.

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